



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

**Note to Reader**

**Background:** As part of its effort to involve the public in the implementation of the Food Quality Protection Act of 1996 (FQPA), which is designed to ensure that the United States continues to have the safest and most abundant food supply.

EPA is undertaking an effort to open public dockets on the organophosphate pesticides. These dockets will make available to all interested parties documents that were developed as part of the U.S. Environmental Protection Agency's process for making reregistration eligibility decisions and tolerance reassessments consistent with FQPA. The dockets include preliminary health assessments and, where available, ecological risk assessments conducted by EPA, rebuttals or corrections to the risk assessments submitted by chemical registrants, and the Agency's response to the registrants' submissions.

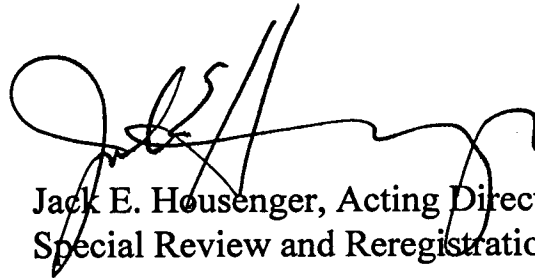
The analyses contained in this docket are preliminary in nature and represent the information available to EPA at the time they were prepared. Additional information may have been submitted to EPA which has not yet been incorporated into these analyses, and registrants or others may be developing relevant information. It's common and appropriate that new information and analyses will be used to revise and refine the evaluations contained in these dockets to make them more comprehensive and realistic. The Agency cautions against premature conclusions based on these preliminary assessments and against any use of information contained in these documents out of their full context. Throughout this process, If unacceptable risks are identified, EPA will act to reduce or eliminate the risks.

There is a 60 day comment period in which the public and all interested parties are invited to submit comments on the information in this docket. Comments should directly relate to this organophosphate and to the information and issues available in the information docket. Once the comment period closes, EPA will review all comments and revise the risk assessments, as necessary.

These preliminary risk assessments represent an early stage in the process by which EPA is evaluating the regulatory requirements applicable to existing pesticides. Through this opportunity for notice and comment, the Agency hopes to advance the openness and scientific soundness underpinning its decisions. This process is designed to assure that America continues to enjoy the safest and most abundant food supply. Through implementation of EPA's tolerance reassessment program under the Food Quality Protection Act, the food supply will become even safer. Leading health experts recommend that all people eat a wide variety of foods, including at least five servings of fruits and vegetables a day.

**Note:** This sheet is provided to help the reader understand how refined and developed the pesticide file is as of the date prepared, what if any changes have occurred recently, and what new information, if any, is expected to be included in the analysis before decisions are made. **It is not meant to be a summary of all current information regarding the chemical.** Rather, the sheet provides some context to better understand the substantive material in the docket ( RED chapters, registrant rebuttals, Agency responses to rebuttals, etc.) for this pesticide.

Further, in some cases, differences may be noted between the RED chapters and the Agency's comprehensive reports on the hazard identification information and safety factors for all organophosphates. In these cases, information in the comprehensive reports is the most current and will, barring the submission of more data that the Agency finds useful, be used in the risk assessments.

A handwritten signature in black ink, appearing to read 'J. Housenger', is written over the typed name and title.

Jack E. Housenger, Acting Director  
Special Review and Reregistration Division

July 9, 1999

ADDENDUM

SUBJECT: Addendum to the Acute and Chronic Dietary Exposure and Risk Analysis for Coumaphos (PC code 036501); DP Barcode D257524; Submission S561774; Case 818804.

FROM: Christina Jarvis, EPS  
Sherrie L. Mason, Chemist  
Reregistration Branch II  
Health Effects Division (7509C)

THROUGH: Alan Nielson, Branch Senior Scientist  
Reregistration Branch II  
Health Effects Division (7509C)

TO: Christina Jarvis, Risk Assessor  
Reregistration Branch II  
Health Effects Division (7509C)

**Background Information**

This memo updates the acute and chronic dietary exposure and risk analysis for the organophosphorus acaricide coumaphos (C. Jarvis and S. Mason memo, 6/1/99) by incorporating estimates of percent dairy cattle treated information into both the acute and chronic dietary exposure analyses. The percent dairy cattle treated information, provided by the Office of Pesticide Program's Biological and Economic Analysis Division (BEAD), refines the chronic dietary risk to children (ages 1-6) to an acceptable level (<100% of the Population Adjusted Dose, or PAD<sup>1</sup>). Attachments include the BEAD memo (A. Grube memo, 07/07/99) and the revised acute and chronic DEEM runs.

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<sup>1</sup>PAD = Population Adjusted Dose =  $\frac{\text{Acute or Chronic RfD}}{\text{FQPA Safety Factor}}$

Revised acute and chronic dietary risk estimates, incorporating 1% dairy cattle treated information, are presented in Tables 1 and 2 below:

**Table 1: Revised Acute Dietary Risk Estimates**

<b>Population</b>	<b>Exposure</b>	<b>% Acute PAD (95<sup>th</sup> Percentile)</b>
U.S. Population	0.00081	12
All Infants (<1 year)	0.00062	8.9
<b>Children 1-6 years</b>	0.0015	21
Females 13+/ nursing	0.00083	12
Males 13-19	0.00075	11

**Table 2: Revised Chronic Dietary Risk Estimates**

<b>Population</b>	<b>Exposure</b>	<b>% Chronic PAD</b>
U.S. Population	0.000056	22
All Infants (<1 year)	0.000022	8.7
<b>Children 1-6 years</b>	0.00011	43
Females 13-19 (not pregnant or nursing)	0.000052	21
Males 13-19	0.000064	26

All subpopulations are below HED's level of concern (<100% of the aPAD/cPAD). Potential acute and chronic dietary exposure to adults and children from coumaphos does not pose a risk of concern.

The acute and chronic dietary risk estimates in this memo supersede the previous dietary risk estimates (C. Jarvis and S. Mason memo, 06/01/99). The only change in this memo has been the incorporation of percent dairy cattle treated information; all other values remain the same.

Attachments:

- 4a) Percent dairy cattle treated memo (A. Grube, 07/07/99)
- 4b-e) DEEM Acute and Chronic Analyses

U.S. Environmental Protection Agency

Ver. 6.78

DEEM ACUTE analysis for COUMAPHOS

(1989-92 data)

Residue file: 036501ac.R96

Adjustment factor #2 used.

Analysis Date: 06-11-1999/10:23:15

Residue file dated: 06-11-1999/10:17:23/8

Acute Reference Dose (aRfD) = 0.007000 mg/kg body-wt/day

NOEL (Acute) = 2.000000 mg/kg body-wt/day

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Summary calculations:

95th Percentile			99th Percentile			99.9th Percentile		
Exposure	% aRfD	MOE	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE
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U.S. pop - all seasons:								
0.000811	11.59	2466	0.001440	20.58	1388	0.002621	37.44	763
All infants (<1 year):								
0.000621	8.87	3219	0.001399	19.99	1429	0.001941	27.73	1030
Children (1-6 years):								
0.001453	20.76	1376	0.002412	34.46	829	0.004200	59.99	476
Children (7-12 years):								
0.001103	15.76	1813	0.002058	29.40	971	0.002944	42.05	679
Females (13+/preg/not nsg):								
0.000485	6.93	4121	0.000955	13.64	2094	0.001083	15.48	1845
Females (13+/nursing):								
0.000826	11.80	2422	0.001368	19.54	1462	0.001510	21.57	1324
Females (13-19 yrs/np/nn):								
0.000709	10.13	2819	0.001266	18.08	1580	0.001912	27.31	1046
Females (20+ years/np/nn):								
0.000561	8.02	3563	0.000982	14.04	2035	0.001622	23.17	1232
Females (13-50 years):								
0.000612	8.75	3266	0.001085	15.49	1844	0.001828	26.12	1093
Males (13-19 years):								
0.000752	10.75	2658	0.001183	16.90	1690	0.002502	35.74	799
Males (20+ years):								
0.000727	10.39	2750	0.001226	17.52	1630	0.001956	27.94	1022
Seniors (55+):								
0.000557	7.95	3592	0.000919	13.13	2175	0.001518	21.69	1317

"Counaphos"

0

NEWN, 0.007

NOEL, 0

2

0

06-11-1999/10:17:23

999

318	50000DB,D,	0.02	1	0.01	0	"Milk-nonfat solids", ""
319	50000FA,D,	0.02	1	0.01	0	"Milk-fat solids", ""
320	50000SA,D,	0.02	1	0.01	0	"Milk sugar (lactose)", ""
321	53001BA,M,	0.1	1	1	0	"Beef-meat byproducts", ""
322	53001BB,M,	0.1	1	1	0	"Beef-other organ meats", ""
323	53001DA,M,	0.05	1.92	1	0	"Beef-dried", ""
324	53001FA,M,	0.4	1	1	0	"Beef-fat w/o bones", ""
325	53001KA,M,	0.04	1	1	0	"Beef-kidney", ""
326	53001LA,M,	0.1	1	1	0	"Beef-liver", ""
327	53001MA,M,	0.05	1	1	0	"Beef-lean (fat/free) w/o bones", ""
328	53002BA,M,	0.03	1	1	0	"Goat-meat byproducts", ""
329	53002BB,M,	0.03	1	1	0	"Goat-other organ meats", ""
330	53002FA,M,	1	1	1	0	"Goat-fat w/o bone", ""
331	53002KA,M,	0.03	1	1	0	"Goat-kidney", ""
332	53002LA,M,	0.03	1	1	0	"Goat-liver", ""
333	53002MA,M,	0.2	1	1	0	"Goat-lean (fat/free) w/o bone", ""
334	53003AA,M,	0.05	1	1	0	"Horsemeat", ""
336	53005BA,M,	0.08	1	1	0	"Sheep-meat byproducts", ""
337	53005BB,M,	0.08	1	1	0	"Sheep-other organ meats", ""
338	53005FA,M,	1	1	1	0	"Sheep-fat w/o bone", ""
339	53005KA,M,	0.09	1	1	0	"Sheep-kidney", ""
340	53005LA,M,	0.08	1	1	0	"Sheep-liver", ""
341	53005MA,M,	0.25	1	1	0	"Sheep-lean (fat free) w/o bone", ""
342	53006BA,M,	0.02	1	1	0	"Pork-meat byproducts", ""
343	53006BB,M,	0.02	1	1	0	"Pork-other organ meats", ""
344	53006FA,M,	0.6	1	1	0	"Pork-fat w/o bone", ""
345	53006KA,M,	0.02	1	1	0	"Pork-kidney", ""
346	53006LA,M,	0.02	1	1	0	"Pork-liver", ""
347	53006MA,M,	0.2	1	1	0	"Pork-lean (fat free) w/o bone", ""
398	50000WA,D,	0.02	1	0.01	0	"Milk-based water", ""
424	56000FA,M,	0.4	1	1	0	"Veal-fat w/o bones", ""
425	56000MA,M,	0.05	1	1	0	"Veal-lean (fat free) w/o bones", ""
426	56000KA,M,	0.04	1	1	0	"Veal-kidney", ""
427	56000LA,M,	0.1	1	1	0	"Veal-liver", ""
428	56000BB,M,	0.1	1	1	0	"Veal-other organ meats", ""
429	56000DA,M,	0.05	1.92	1	0	"Veal-dried", ""
430	56000BA,M,	0.1	1	1	0	"Veal-meat byproducts", ""

U.S. Environmental Protection Agency  
 DEEM Chronic analysis for COUMAPHOS  
 Residue file name: D:\Counaphos\Chronic\036501cr.R96

Ver. 6.76  
 (1989-92 data)

Adjustment factor #2 used.  
 Analysis Date 06-11-1999/10:19:57      Residue file dated: 06-11-1999/10:18:42/8  
 Reference dose (RfD, CHRONIC) = .00025 mg/kg bw/day

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Total exposure by population subgroup

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Population Subgroup	Total Exposure	
	mg/kg body wt/day	Percent of Rfd
U.S. Population (total)	0.000056	22.3%
U.S. Population (spring season)	0.000055	22.0%
U.S. Population (summer season)	0.000057	22.6%
U.S. Population (autumn season)	0.000056	22.2%
U.S. Population (winter season)	0.000056	22.3%
Northeast region	0.000053	21.1%
Midwest region	0.000059	23.7%
Southern region	0.000059	23.7%
Western region	0.000048	19.4%
Hispanics	0.000064	25.4%
Non-hispanic whites	0.000054	21.5%
Non-hispanic blacks	0.000061	24.4%
Non-hisp/non-white/non-black)	0.000061	24.4%
All infants (< 1 year)	0.000022	8.7%
Nursing infants	0.000016	6.6%
Non-nursing infants	0.000024	9.6%
Children 1-6 yrs	0.000107	42.6%
Children 7-12 yrs	0.000079	31.7%
Females 13-19(not preg or nursing)	0.000052	20.6%
Females 20+ (not preg or nursing)	0.000039	15.7%
Females 13-50 yrs	0.000043	17.3%
Females 13+ (preg/not nursing)	0.000042	17.0%
Females 13+ (nursing)	0.000041	16.6%
Males 13-19 yrs	0.000064	25.6%
Males 20+ yrs	0.000054	21.6%
Seniors 55+	0.000040	16.0%
Pacific Region	0.000047	18.6%

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"Coulaphos"

0.00025

NEWN, 0

NOEL, 0.025

0

0

06-11-1999/10:18:42

999

318	50000DB,D,	0.006	1	0.01	0	"Milk-nonfat solids", ""
319	50000FA,D,	0.006	1	0.01	0	"Milk-fat solids", ""
320	50000SA,D,	0.006	1	0.01	0	"Milk sugar (lactose)", ""
321	53001BA,M,	0.1	1	1	0	"Beef-meat byproducts", ""
322	53001BB,M,	0.1	1	1	0	"Beef-other organ meats", ""
323	53001DA,M,	0.03	1.92	1	0	"Beef-dried", ""
324	53001FA,M,	0.072	1	1	0	"Beef-fat w/o bones", ""
325	53001KA,M,	0.04	1	1	0	"Beef-kidney", ""
326	53001LA,M,	0.1	1	1	0	"Beef-liver", ""
327	53001MA,M,	0.03	1	1	0	"Beef-lean (fat/free) w/o bones", ""
328	53002BA,M,	0.03	1	1	0	"Goat-meat byproducts", ""
329	53002BB,M,	0.03	1	1	0	"Goat-other organ meats", ""
330	53002FA,M,	0.5	1	1	0	"Goat-fat w/o bone", ""
331	53002KA,M,	0.02	1	1	0	"Goat-kidney", ""
332	53002LA,M,	0.03	1	1	0	"Goat-liver", ""
333	53002MA,M,	0.04	1	1	0	"Goat-lean (fat/free) w/o bone", ""
334	53003AA,M,	0.03	1	1	0	"Horsemeat", ""
336	53005BA,M,	0.03	1	1	0	"Sheep-meat byproducts", ""
337	53005BB,M,	0.03	1	1	0	"Sheep-other organ meats", ""
338	53005FA,M,	0.5	1	1	0	"Sheep-fat w/o bone", ""
339	53005KA,M,	0.04	1	1	0	"Sheep-kidney", ""
340	53005LA,M,	0.03	1	1	0	"Sheep-liver", ""
341	53005MA,M,	0.05	1	1	0	"Sheep-lean (fat free) w/o bone", ""
342	53006BA,M,	0.02	1	1	0	"Pork-meat byproducts", ""
343	53006BB,M,	0.02	1	1	0	"Pork-other organ meats", ""
344	53006FA,M,	0.06	1	1	0	"Pork-fat w/o bone", ""
345	53006KA,M,	0.02	1	1	0	"Pork-kidney", ""
346	53006LA,M,	0.02	1	1	0	"Pork-liver", ""
347	53006MA,M,	0.03	1	1	0	"Pork-lean (fat free) w/o bone", ""
398	50000WA,D,	0.006	1	0.01	0	"Milk-based water", ""
424	56000FA,M,	0.072	1	1	0	"Veal-fat w/o bones", ""
425	56000MA,M,	0.03	1	1	0	"Veal-lean (fat free) w/o bones", ""
426	56000KA,M,	0.04	1	1	0	"Veal-kidney", ""
427	56000LA,M,	0.1	1	1	0	"Veal-liver", ""
428	56000BB,M,	0.1	1	1	0	"Veal-other organ meats", ""
429	56000DA,M,	0.03	1.92	1	0	"Veal-dried", ""
430	56000BA,M,	0.1	1	1	0	"Veal-meat byproducts", ""